

CLAIMS

1. A device for separating between the upper and lower jaws, comprising at least one substantially U-shaped rib and a deformable member associated therewith such that said member gradually changes its shape when a pressure is applied on said at least one rib by the jaws.
2. Device according to claim 1, wherein the device is a protection device which prevents a self-inflicting or externally inflicted injury.
3. Device according to claim 1, wherein the device is a device for suppressing upper airway resistance syndrome, sleep apnea syndrome or snoring.
4. Device according to claim 1, comprising two substantially U-shaped ribs, connected at at least one end to one another, and a deformable member positioned between them such that said member gradually changes its shape when a pressure is applied on said ribs by the jaws.
5. Device according to claim 4, comprising:
  - a) two U-shaped ribs having a lingual and buccal side, each of said ribs having a curvature corresponding to the curvature of a dental arch and subtending a majority of its length;
  - b) two support units attached at each posterior end of a pair of said ribs on the lingual side thereof, such that said two support units have

bilateral symmetry about a plane coincidental with an anteriorly located central portion of each of said ribs and that each of said ribs is separated one from the other, at a given point along a rib, by a separation substantially corresponding to an essentially maximum jaw angular opening when said support units are not compressed; and

c) an upper and a lower tooth receiving means for each support unit, each of said tooth receiving means extending the entire length of a corresponding support unit and adapted to retain posterior teeth therein, borders of each of said tooth receiving means being defined by a wall of a support unit longitudinally protruding from a lingual side of a corresponding tooth receiving means and a portion of a rib longitudinally protruding from the buccal side thereof.

6. Device according to claim 5, wherein each support unit comprises a plurality of longitudinally disposed fins which are compressible upon application of interjaw forces and which can return to their original dimensions following the relaxation of the jaw muscles.

7. Device according to claim 5, wherein each support unit is provided with solid lingual walls.

8. Device according to claim 5, wherein each support unit is enclosed by solid lingual and buccal walls, a plurality of chambers being defined by

said solid walls and by two adjacent fins for the insertion therein of therapeutic material.

9. Device according to claim 6, wherein each fin comprises a first portion proximate to a first rib, a second portion proximate to a second rib, and a central arcuate portion connecting said first portion and said second portion, said first portion and second portions being symmetrical about a plane which passes through a junction connecting said first and second ribs and which separates a support unit into two separate sections.

10. Device according to claim 9, wherein the first and second portions are planar elements, all first portions of a given support unit being mutually parallel and all second portions of a given support unit being mutually parallel.

11. Device according to claim 10, wherein the length of each first and second portion preferably progressively decreases from the most anteriorly disposed fin to the most posteriorly disposed fin whereby the first rib is inclined at a predetermined angle with respect to the second rib.

12. Device according to claim 11, wherein the predetermined angle is essentially equal to the maximum jaw angular opening.

13. Device according to claim 6, wherein the tooth receiving means is a planar surface which abuts the same longitudinal end of each fin of a support unit.

14. Device according to claim 7, wherein the tooth receiving means is the plurality of chambers.

15. Protection device according to claim 1, wherein the central anteriorly disposed portion of each rib is an arcuate member for retaining incisor teeth on the buccal side thereof.

16. Protection device according to claim 15, further comprising a handle integrally formed with a rib, longitudinally inwards from the corresponding arcuate member.

17. Device according to claim 1, further comprises at least one reservoir suitable for housing a beneficial or edible material.

18. Device according to claim 17, wherein the beneficial or edible material is delivered to a subject by means selected from the group of the pressure applied to the deformable member by the jaws, temperature activated means, moisture activated means, timed release means and control means.

19. Device according to claim 18, wherein the control means is at least one electronic component and circuitry.
20. Device according to claim 18, wherein the at least one reservoir is additionally suitable for housing a measuring or control means.
21. Device according to claim 19, wherein the measuring or control means measures or controls electric current and/or saliva secretion.
22. Device according to claim 18, wherein the beneficial or edible material is essentially immediately deliverable upon activation of the delivery means.
23. Device according to claim 17, wherein the beneficial or edible material is a pharmaceutically active agent.
24. Device according to claim 17, wherein the beneficial or edible material is a scent or taste additive to the oral cavity.
25. Device according to claim 17, wherein the beneficial or edible material is in the form selected from the group of liquid, aerosol, powder, gas, and encapsulated form.

26. Device according to claim 17, wherein each reservoir is a recess formed in the deformable member.

27. Device according to claim 5, wherein the central anteriorly disposed portion of each rib is placeable on a corresponding gum when the device is inserted within the oral cavity.

28. Device according to claim 27, wherein the central anteriorly disposed portion of each rib is an arcuate member which is shaped so as to prevent damage to the frenulum of a corresponding lip.

29. Device according to claim 5, wherein the device further comprises a handle integrally formed with a rib, longitudinally inwards from a corresponding central anteriorly disposed portion.

30. Device according to claim 5, wherein the device is formed with a centrally and anteriorly located airway for the release of vomit from the oral cavity.

31. Device according to claim 30, wherein the airway is formed between two opposing ribs and two opposing deformable members.

32. Device according to claim 1, wherein the at least one rib and the deformable member are produced from different materials, the yield

strength of the at least one rib being significantly greater than that of the deformable member.

33. Device according to claim 1, wherein the at least one rib and the deformable member are produced from the same material.

34. Device according to claim 1, wherein the material of the deformable member hardens after use.

35. Device according to claim 1, wherein the device is disposable and for one-time use.

36. Device according to claim 1, wherein the device is reusable.

37. Device according to claim 1, wherein the device is packageable in a container which breaks upon removal of the device from said container.

38. Device according to claim 37, wherein the container is provided with a retaining means for retaining the container in an accessible location.

39. Device according to claim 5, wherein each support unit is configured in such a way and produced from a suitable material so as to follow the movement of the jaws.

40. A method for delivering material to a subject, comprising:
- a) providing a device with two substantially U-shaped ribs, connected at at least one end to one another, and a deformable member positioned between them formed with at least one reservoir suitable for housing a beneficial or edible material;
  - b) filling each of said at least one reservoir with a beneficial or edible material;
  - c) inserting said device into the oral cavity of said subject such that said deformable member separates an upper set of posterior teeth from a corresponding lower set of posterior teeth; and
  - d) allowing said beneficial or edible material to be delivered to said subject.

41. Method according to claim 40, wherein the beneficial or edible material is delivered to the subject upon application of pressure onto said deformable member by the jaws.

42. Method according to claim 40, wherein the beneficial or edible material is delivered to the subject when the temperature within the oral cavity of the subject is greater than a predetermined value.

43. Method according to claim 40, wherein the beneficial or edible material is delivered to the subject when the moisture level within the oral cavity of the subject is greater than a predetermined value.



44. Method according to claim 40, wherein the beneficial or edible material is delivered to the subject after a predetermined time following insertion of the device within the oral cavity.

45. Method according to claim 40, wherein the beneficial or edible material is delivered to the subject upon activation of control circuitry.